Portland Harbor Recontamination Strategy to Date and Going Forward

Introduction of Topic

Goals:

- Acknowledgement of differing perspectives on thinking about recontamination
  - EPA: after remedy
  - DEQ: as measure of source control success (JSCS objectives: prevent sediment recontamination & unacceptable in-water risk)
- Achieve a common understanding of PRG use for recontamination and source control
- Agreement on the definition of recontamination and evaluation process
- Identification of any open questions that need to be nailed down
- Documentation of agreed to goals and process and development of schedule to get there
- Integration into EPA's Cleanup Plan

Background

- Karen Tarnow's 2009-10 work on SEDCAM at Zidell and other sites as a RE approach for stormwater
- Alex Liverman's 2011-2013 RE/LA discussions w/Chip, Kristine, Sean, Rich, Jim & Matt + CDM on joint RE strategy
  - Review of guidance and other sediment site examples (none found)
  - Framework for Site-Level RE
  - EPA lead on EAs & DEQ lead on SC sites, as needed
  - Summary Report focus – sites, georegions, Harbor-wide
  - Qualitative - lines of evidence w/ additional quantitation, as possible/necessary
  - Joint plan for ground-truthing predictions, risk-based triggers for action & adaptive management (for inclusion in the ROD)
  - Affirmation in writing by EPA of approach
- Nov 2014 PH Source Control Summary Report conclusions – comprehensive application of JSCS; multiple lines of evidence; recontamination potential site-by-site, by georegion and Harbor-wide; tracking mechanisms in place in coordination with EPA to complete controls at sites in process; planned development of joint effectiveness monitoring & adaptive management plan with EPA = low potential for recontamination
  - Source control will be sufficiently in place so that the in-water remedy can move forward on the anticipated schedule.

Stormwater – Challenge: lack of accepted method to predict sediment concentrations from water column discharges

- 2006 Stormwater Work Group – DEQ – CU, WQ, Lab & City for long term sw management in PH – permit
- 2007 – Site Discovery in Basin 18
- 2008 – Stormwater Strategy Group – loading modeling & guidance development
- 2009 – Implement Guidance – applied at ~ 75 of 170 sites evaluated for sw in PH + 39 City OFs + 32 ODOT OFs
- 2010 - Rank-Order curves – update with data thru 2014 in process
- 2011 – City CSO project completion
- 2012 – 1200 Z Industrial Stormwater General Permit updated to include monitoring of most PH CoCs
  - See handout on compliance concentrations vs SLVs and rank-order curve values
  - 74 permitted sites in PH & 83 more certified to have no exposure (~160)
- 2012-13 – evaluate 395 unpermitted parcels for a handful of additional sites to compel under permit
- 2013-16 – coordinate w/ WQ on PH-specific sector (or permit) for 2017 1200 Z renewal process

Riverbanks – Recontamination potential eliminated by removal or engineered remedy

EPA & DEQ have agreed that:

- For banks considered sources, control measures will be:
  - Integrated into the in-water design by EPA when within an SDU
  - Implemented by DEQ for select sites prior to in-water work or when no SDU is present
- For banks that are not considered sources or uncertain
  - Documentation of status of in DEQ source control decision
  - EPA as part of SDU recontamination may confirm riverbank no action decision

Groundwater – Small number of sites, mostly within SDUs, recontamination assessment jointly

- Source Control Effectiveness Demonstration Status
  - Hydraulic Containment
- Stranded Wedge
  - Cap Loading Model
- Uncontrolled Groundwater Plumes
  - Discharge to an SDU
  - Cap Loading Model
  - DEQ/EPA identification of sites

Downtown Reach

- Most significant sites identified and are being addressed
- In-water suspended sediment concentrations are currently lower than RALs and expected to decrease toward background
- Majority of stormwater draining to City outfalls has been redirected to Columbia Blvd. POTW or to infiltration
- Downtown reach does not pose a recontamination threat to Portland Harbor that will impede remedy implementation

Scope of Remaining Work at Sites – Small universe (50 sites anticipated to be refined down to less than a dozen)

- Tracking sheet – All pathways, sites of interest to EPA, incomplete source control, effectiveness yet to be determined
- Coordination process – Close coordination between DEQ & EPA, bones of monitoring & adaptive management planning (source control success/recontamination prevention confirmation & post-ROD performance – including MNR)

Recontamination Definition

As defined by EPA Region 10 Environmental Cleanup, recontamination means "anything above a cleanup level" (Blocker 2014), but such deposits on remediated sediment may not require action beyond monitoring.

- Cleanup level
  - PRG?
  - RAL?
  - 95% UCL
- Spatial Scale
  - Rolling 0.5 river miles (RAOs 1 and 5)
  - Rolling 1.0 river miles (RAOs 2 and 6)
  - Entire site
- Actionable triggers?

Unacceptable In-Water Risk - Water PRGs and Source Control

How will the in-water remedy evaluate these PRGs?

- Performance standards vs cleanup goals?
- For the purposes of demonstrating upland source control compliance
  - Start with in-water program
  - Then identify sources where the in-water program does not cover the issue
  - Element of joint performance monitoring planning?